We claim:

1. A microemulsion having an adsorbent surface, said microemulsion comprising a microdroplet emulsion comprising:

(a) a metabolizable oil; and

(b) an emulsifying agent;

wherein, said emulsifying agent comprises a detergent.

2. The microemulsion of claim 1 wherein said oil and said emulsifying agent are present in the form of an oil-in-water emulsion having oil droplets, wherein substantially all of the oil droplets are less than 1 micron in diameter, and wherein said composition exists in the absence of a polyoxypropylene-polyoxyethylene block copolymer.

3. The microemulsion of claim 2, wherein said oil is a member of the group consisting of an animal oil, an unsaturated hydrocarbon, a terpenoid, and a vegetable oil.

4. The microemulsion of claim 3 wherein said oil is a terpenoid which is squalene.

5. The microemulsion of claim 2 wherein said composition comprises 0.5 to 20% by volume of said oil in an aqueous medium.

6. The microemulsion of claim 1 wherein said composition comprises 0.01 to 0.5 % by weight of said emulsifying agent.

7. The microemulsion of claim 1 wherein said emulsifying agent comprises a non-ionic detergent.

8. The microemulsion of claim 7 wherein said emulsifying agent comprises a polyoxyethylene sorbitan mono-, di-, or triester or a sorbitan mono-, di-, or triether.

9. The microemulsion of claim 1 wherein said emulsifying agent comprises a cationic detergent.

10. The microemulsion of claim 9 wherein said cationic detergent is selected from the group consisting of hexadecyltrimethylammonium bromide, benzalkonium chloride, dimethyl dioctodecyl ammonium bromide, DOTAP, dodecyltrimethylammonium bromide, benzyldimethylhexadecyl ammonium chloride, cetylpyridinium chloride, methylbenzethonium chloride, and 4-picoline dodecyl sulfate.

11. The microemulsion of claim 9 wherein said composition comprises 0.01 to 0.5 % by weight of said emulsifying agent.

12. The microemulsion of claim 1 wherein said emulsifying agent comprises an anionic detergent.

13. The microemulsion of claim 1, further comprising a biologically active macromolecule adsorbed on the surface thereof, wherein the biologically active macromolecule is at least one member selected from the group consisting of a polypeptide, a polynucleotide, a polynucleoside, an antigen, a pharmaceutical, a hormone, an enzyme, a transcription or translation mediator, an intermediate in a metabolic pathway, an immunomodulator, and an adjuvant.

14. The composition of claim 13 wherein said macromolecule is an adjuvant selected from the group consisting of a CpG oligonucleotide, alum, a bacterial cell wall component, and muramyl peptide.

15. The microemulsion of claim 14 wherein said oligonucleotide comprises at least one phosphorothioate bond.

16. The microemulsion of claim 15 wherein said oligonucleotide comprises at least one peptide nucleic acid bond.

17. The microemulsion of claim 16 wherein said oligonucleotide comprises a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1-28.

18. The microemulsion of claim 14 wherein said oligonucleotide comprises a CpG motif flanked by two purines immediately 5' to said motif and two pyrimidines immediately 3' to said motif.

19. The microemulsion of claim 13 wherein said antigen is from a virus.

20. The microemulsion of claim 19 wherein the viral antigen comprises a viral subunit.

21. The microemulsion of claim 19 wherein the virus is selected from the group consisting of hepatitis C virus (HCV), hepatitis B Virus (HBV), herpes simplex virus (HSV), human immunodeficiency virus (HIV), cytomegalovirus (CMV), influenza virus (flu), and rabies virus.

22. The microemulsion of claim 19 wherein said antigen is selected from the group consisting of HSV glycoprotein gD, HIV glycoprotein gp120, and HIV p55 gag.

23. The microemulsion of claim 13 wherein said antigen is from a bacterium.

24. The microemulsion of claim 23 wherein said bacterium is selected from the group consisting of cholera, diphtheria, tetanus, pertussis, *Helicobacter pylori*, and *Haemophilus influenza*.

25. The microemulsion of claim 13 wherein said antigenic substance is from a parasite.

26. The microemulsion of claim 25 wherein said parasite comprises a malaria parasite.

27. A method of inducing an immune response in a host animal comprising administering to said animal the microemulsion of any of claims 13-26.

28. The method of claim 27 wherein said host animal is a mammal.

29. The method of claim 28 wherein said mammal is a human.

30. A method of immunizing a host animal against a viral, bacterial, or parasitic infection comprising administering to said animal the microemulsion of any of claims13-26 in an amount effective to induce a protective response.

31. The method of claim 30 wherein said host animal is a mammal.

32. The method of claim 31 wherein said mammal is a human.

33. A method of inducing a Th1 immune response in a host animal comprising administering to said animal the microemulsion of any of claims 13-26.

34. A composition comprising the microemulsion of claim 13 and a microparticle having an adsorbent surface, said microparticle comprising:

a polymer selected from the group consisting of a poly(α-hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester, a polyanhydride, and a polycyanoacrylate; and

a second detergent.

35. The composition of claim 34, wherein said microparticle further comprises a first biologically active macromolecule adsorbed on the surface thereof, wherein the first biologically active macromolecule is at least one member selected from the group consisting of a polypeptide, a polynucleotide, a polynucleoside, an antigen, a pharmaceutical, a hormone, an enzyme, a transcription or translation mediator, an intermediate in a metabolic pathway, an immunomodulator, and an adjuvant.

36. The composition of claim 34, wherein said microparticle further comprises a second biologically active macromolecule encapsulated within said microparticle, wherein the second biologically active macromolecule is at least one member selected from the group consisting of a polypeptide, a polynucleotide, a polynucleoside, an antigen, a pharmaceutical, a

hormone, an enzyme, a transcription or translation mediator, an intermediate in a metabolic pathway, an immunomodulator, and an adjuvant.

37. The composition of any of claims 34-36, wherein the microparticle comprises a poly(α-hydroxy acid) selected from the group consisting of poly(L-lactide), poly(D,L-lactide) and poly(D,L-lactide-co-glycolide).

38. The composition of any of claims 34-36, wherein the microparticle comprises poly(D,L-lactide-co-glycolide).

39. The composition of any of claims 34-36, wherein the second detergent is a cationic detergent.

40. The composition of any of claims 34-36, wherein the second detergent is an anionic detergent.

41. The composition of any of claims 34-36, wherein the second detergent is an nonionic detergent.

42. The composition of any of claims 35-36, wherein the first biologically active macromolecule is an antigen selected from the group consisting of gp120, p24gag, p55gag, and Influenza A hemagglutinin antigen.

43. The composition of any of claims 35-36, wherein the first biologically active macromolecule is a polynucleotide which encodes gp120.

44. The composition of claim 36, wherein the second biologically active macromolecule is an adjuvant.

45. The composition of any of claims 34-36, wherein the adjuvant adsorbed to the microparticle is an aluminum salt.

46. The composition of any of claims 34-45, further comprising a pharmaceutically acceptable excipient.

47. The composition of any of claims 34-46, further comprising an unadsorbed adjuvant.

48. The composition of claim 47, wherein the unadsorbed adjuvant is a member selected from the group consisting of CpG oligonucleotides, LTK63, LTR72, MPL, QS21, Quil A, and an aluminum salt.

49. A composition of claim 48, wherein the unadsorbed adjuvant is an aluminum salt which is aluminum phosphate.

50. A method of delivering a therapeutically effective amount of a macromolecule to a vertebrate subject comprising the step of administering to the vertebrate subject the composition of any of claims 35, 36, 42, 43, 44, 47, or 48.

51. Use of a composition of any of claims 35, 36, 42, 43, 44, 47, or 48 for diagnosis of a disease.

52. Use of a composition of any of claims 35, 36, 42, 43, 44, 47, or 48 for treatment of a disease.

53. Use of a composition of any of claims 35, 36, 42, 43, 44, 47, or 48 for a vaccine.

54. Use of a composition of any of claims 35, 36, 42, 43, 44, 47, or 48 for raising an immune response.